

Appl. No. 10/713,321  
Amdt. dated January 30, 2008  
Reply to non-final Office Action of October 30, 2007

JAN 30 2008

**REMARKS/ARGUMENTS**

Claims 1-27 are pending in the present application.

This Amendment is in response to the non-final Office Action mailed on October 30, 2007. In the Office Action, the Examiner rejected claims 1-27 under 35 U.S.C. §103(a).

Applicant has amended claims 1, 10, and 19. Reconsideration in light of the amendments and remarks made herein is respectfully requested.

***Rejection Under 35 U.S.C. § 103(a)***

In the Office Action, the Examiner rejected claims 1-4, 7-13, 16-22, and 25-27 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,057,839 issued to Advani et al. ("Advani") in view of U.S. Patent No. 7,131,113B2 issued to Chang et al. ("Chang"); and claims 5-6, 14-15, and 23-24 under 35 U.S.C. §103(a) as being unpatentable over Adyani and Chang in view of U.S. Patent No. 5,819,028 issued to Manghirmalani et al. ("Manghirmalani"). Applicant notes that the Office Action cites the U.S Patent No. 6,057,837 as issued to Advani. However, the U.S Patent No. 6,057,837 is issued to Hatakeda et al. having title "On-screen identification and manipulation of sources that an object depends upon". Applicant believes that the recitation of U.S Patent number 6,057,837 is a typographical error and will assume that the correct patent number is 6,057,839. Applicant respectfully traverses the rejection and submits that the Examiner has not met the burden of establishing a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP §2143, p. 2100-126 to 2100-130 (8th Ed., Rev. 5, August 2006). Applicant respectfully submits that there is no suggestion or motivation to combine their teachings, and thus no *prima facie* case of obviousness has been established.

Furthermore, the Supreme Court in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966), stated: "Under § 103, the scope and content of the prior art are to be determined;

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differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.” *MPEP 2141*. In *KSR International Co. vs. Teleflex, Inc.*, 127 S.Ct. 1727 (2007) (Kennedy, J.), the Court explained that “[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” The Court further required that an explicit analysis for this reason must be made. “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR* 127 S.Ct. at 1741, quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). In the instant case, Applicant respectfully submits that there are significant differences between the cited references and the claimed invention and there is no apparent reason to combine the known elements in the manner as claimed, and thus no *prima facie* case of obviousness has been established.

1. Claims 1-4, 7-13, 16-22, and 25-27:

Advani discloses a visualization tool for graphically displaying trace data produced by a parallel processing computer. Trace data are graphically displayed using a visualization tool (Advani, col. 3, lines 38-39). The trace data is converted into data structures from which pixel map diagrams are created for selected time intervals (Advani, col. 3, lines 39-41). A diagram can be selectively displayed for the user for each processor, indicating processing activity during a time interval (Advani, col. 3, lines 45-47). For each processor, an average processor utility time across all processors is graphically generated (Advani, col. 3, lines 47-49). A display representing parallelism at periodic time intervals would be produced from a stream of sequential data structures (Advani, col. 5, lines 46-48). Multiple windows on a single screen may be produced so that a user can simultaneously view various characteristics of a trace file (Advani, col. 7, lines 59-61). Upon user selection, instantaneous displays, such as pie charts, bar graphs and the like may be created (Advani, col. 7, lines 62-64). Display (500) contains rows 505<sub>1</sub>, 505<sub>2</sub>,

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505<sub>3</sub>, 505<sub>4</sub> and so on that represent each processor in the parallel processing computer (Advani, col. 8, lines 26-28). To view the hidden events, the user may magnify the display until each pixel in the display represents a single event (Advani, col. 8, lines 61-62).

Chang discloses a system and method on generating multi-dimensional trace files and visualizing them using multiple Gantt charts. For the case of distributed systems, e.g., where multiple systems work together to solve a problem, traces may be collected from each of the multiple systems (Chang, col. 6, lines 51-54). A merge process is necessary to collect all of the traces in such distributed systems (Chang, col. 6, lines 54-55). The merge process outputs the interval with the smallest end time, removes it from the AVL (Adelson-Velskii-Landis) tree, and then fetches the next available interval from the same file and inserts the new interval into the AVL tree based on its end time (Chang, col. 6, lines 61-65). This repeats as many times as necessary until all interval records are processed (Chang, col. 6, lines 65-66).

Advani and Chang, taken alone or in any combination, do not disclose or render obvious, at least one of: (1) displaying on a display a first graphic type indicative of a processor usage for each one of at least two processors in a multiprocessor system, the processor usage including at least one of processor assignment, processor availability, and clustering; and (2) displaying on said display a second graphic type indicative of an application assignment for each one of at least two application groups associated with each of said at least two processors.

Advani merely discloses a diagram displayed to indicate processing activity during a time interval (Advani, col. 3, lines 45-47), or an average processor utility time across all processors is graphically generated (Advani, col. 3, lines 47-49), not a first graphic type indicative of a processor usage for each one of at least two processors in a multiprocessor system, the processor usage including at least one of processor assignment, processor availability, and clustering. The diagram has time as an abscissa axis and total CPU utilization as an ordinate axis (Advani, col. 5, lines 58-60). A processor utilization is a function that varies between zero and a maximum number (Advani, col. 9, lines 18-19). It does not show at least one of processor assignment, processor availability, and clustering.

In addition, Advani merely discloses a message passing display (Advani, col. 8, lines 18-20; Figure 5), or an event highlighting function to magnify the display until each pixel in the

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display represents a single event (Advani, col. 8, lines 61-62), not a second graphic type indicative of an application assignment for each one of at least two application groups associated with each of said at least two processors. A message passing display merely shows a path to indicate the exact path along which a message has passed (Advani, col. 8, lines 37-38). The message only represents the communication between processors. It is not an application assignment for an application group associated with a processor. Similarly, an event highlighting function only magnifies a single event. It does not involve an application assignment.

Furthermore, Advani merely discloses a message passing display (Advani, col. 8, lines 18-20; Figure 5) or an event highlighting function (Advani, col. 8, lines 61-62) separately from the display of the event history usage (Advani, col. 8, lines 18-20; Figures 4A-4F, Figure 5). Since the message passing and the event highlighting function are independent and separate from the event history usage, they may not be displayed on the same display screen. In contrast, the claimed invention provides for the first and second graphic types to be displayed on the same display. To clarify this aspect of the invention, claims 1, 10, and 19 have been amended.

Moreover, Chang merely discloses that a merge process is necessary to collect all of the traces in distributed systems (Chang, col. 6, lines 54-55), not a first graphic type indicative of a processor usage including at least one of processor assignment, processor availability, and clustering. Figures 3 through 7 merely show activities of multiple threads over time. In Figure 3, threads are displayed along the Y-axis and color rectangles represent different processors (Chang, col. 8, lines 2-4). In Figure 4, processors are displayed along the Y-axis and color rectangles represent different threads (Chang, col. 8, lines 11-13). In Figures 5 and 6, threads are displayed along the Y-axis and color rectangles represent various activities (Chang, col. 8, lines 16-18; lines 35-37). In Figure 7, processors are displayed along the Y-axis and color rectangles represent various activities (Chang, col. 8, lines 42-44). The various displays merely show different combinations of threads and processors. None of these is related to processor usage including at least one of processor assignment, processor availability, and clustering.

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2. Claims 5-6, 14-15, and 23-24:

Advani and Chang are discussed above.

Manghirmalani discloses a method and apparatus for determining the health of a network. Health information can be portrayed in the forms of a dial meter, graph meter, or digital meter. The dial meter is similar to that of an analog speedometer or fuel gauge in a car (Manghirmalani, col. 8, lines 15-19).

Advani, Chang; and Manghirmalani, taken alone or in any combination, do not disclose or render obvious, at least one of: (1) displaying on a display device a first graphic type indicative of a processor usage for each one of at least two processors in a multiprocessor system, the processor usage including at least one of processor assignment, processor availability, and clustering; and (2) displaying on said display device a second graphic type indicative of an application assignment for each one of at least two application groups associated with each of said at least two processors; (3) said graphic indicator comprises a gauge, as recited in claims 5, 14, and 23; and (4) the gauge includes bands that reflect ranges of processor utilization, as recited in claims 6, 15, and 24.

As discussed above, Advani and Chang do not disclose or render obvious elements as above. Accordingly, a combination of Advani and Chang with any other references in rejecting claims 5-6, 14-15, and 23-24, which depend on claims 1, 10, and 19, respectively, is improper.

Furthermore, Manghirmalani merely discloses using a dial meter to display health information of a network, not a processor utilization. The health information indicates whether the network is in repair and/or upgrade or in good health. It does not show the processor utilization. Moreover, Manghirmalani does not disclose or suggest at least two processors in multiprocessor systems. Manghirmalani only discloses a network. A network may be connected to multiple processors but it does not operate in the context of a multiprocessor system.

The Examiner failed to establish a *prima facie* case of obviousness and failed to show there is teaching, suggestion, or motivation to combine the references. When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to: (A) The claimed invention must be considered as a whole; (B) The references must be considered as a whole and must suggest the

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desirability and thus the obviousness of making the combination; (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and (D) Reasonable expectation of success is the standard with which obviousness is determined. Hodosh v. Block Drug Col. Inc., 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986). "When determining the patentability of a claimed invention which combined two known elements, 'the question is whether there is something in the prior art as a whole suggest the desirability, and thus the obviousness, of making the combination.'" In re Beattie, 974 F.2d 1309, 1312 (Fed. Cir. 1992), 24 USPQ2d 1040; Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 1462, 221 USPQ (BNA) 481, 488 (Fed. Cir. 1984). To defeat patentability based on obviousness, the suggestion to make the new product having the claimed characteristics must come from the prior art, not from the hindsight knowledge of the invention. Interconnect Planning Corp. v. Feil, 744 F.2d 1132, 1143, 227 USPQ (BNA) 543, 551 (Fed. Cir. 1985). To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the Examiner to show a motivation to combine the references that create the case of obviousness. In other words, the Examiner must show reasons that a skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the prior elements from the cited prior references for combination in the manner claimed. In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1996), 47 USPQ 2d (BNA) 1453. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or implicitly suggest the claimed invention or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973. (Bd.Pat.App.&Inter. 1985). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Furthermore, although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." In re Mills 916 F.2d at 682, 16 USPQ2d at 1432; In re Fritch, 972 F.2d 1260 (Fed. Cir. 1992), 23 USPQ2d 1780.

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Moreover, the Examiner failed to establish the factual inquiries in the three-pronged test as required by the *Graham* factual inquiries. There are significant differences between the cited references and the claimed invention as discussed above. Furthermore, the Examiner has not made an explicit analysis on the apparent reason to combine the known elements in the manner of the claimed invention. Accordingly, there is no apparent reason to combine the teachings of Advani, Chang, and Manghirmalani.

In the present invention, the cited references do not expressly or implicitly disclose any of the above elements. In addition, the Examiner failed to present a convincing line of reasoning as to why a combination of Advani, Chang, and Manghirmalani is an obvious application of displaying processor usage in a multiprocessor system, or an explicit analysis on the apparent reason to combine Advani, Chang, and Manghirmalani in the manner as claimed.

Therefore, Applicant believes that independent claims 1, 10 and 19 and their respective dependent claims are distinguishable over the cited prior art references. Accordingly, Applicant respectfully requests the rejection under 35 U.S.C. §103(a) be withdrawn.

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*Conclusion*

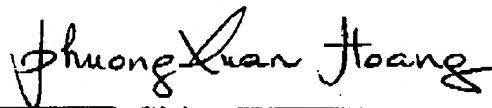
Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

UNISYS CORPORATION

Dated: January 30, 2008

By \_\_\_\_\_



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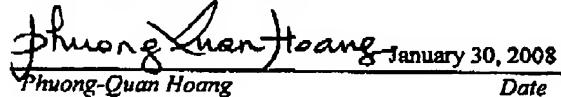
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